

fungus and parasitological species with any combination of the primer pairs defined in SEQ ID NOs.:

for generating a *tuf/fus* repertoire: 543, 556-561, 636-639, 643-655, 658-661, 664, 694, 696, 697, 812, 813, 815, 911-917, 1221-1229, 1974-1984, 1999-2003 and 2282-2285;

for generating an *atpD* repertoire: 562-574, 640-642, 681-683, 699, 700, 708, 814, 1203-1207, 1212 and 1213; and

for generating a *recA* repertoire: 919-922, 935-938, 1605 and 1606.

Please substitute the following claim 2 for the pending claim 2:

2. (Once amended) A method for generating a repertoire of nucleic acid sequences, which comprises the steps of:

- (a) reproducing the method of claim 45; and
- (b) sequencing said nucleic acids.

Please substitute the following claim 3 for the pending claim 3:

3. (Once amended) A method for generating sequences of probes, or primers, or both, useful for the detection of one, more than one related microorganisms, or substantially all microorganisms of a group selected from algae, archaea, bacteria, fungi and parasites, which comprises the steps of:

- (a) reproducing the method of claim 2;
- (b) aligning a subset of nucleic acid sequences of said repertoire;
- (c) locating nucleic acid stretches that are present in the nucleic acids of strains or representatives of said one, more than one related microorganisms, or substantially

all microorganisms of said group, and not present in the nucleic acid sequences of other microorganisms; and

(d) deriving consensus nucleic acid sequences useful as probes or primers from said stretches.

Please substitute the following claim 4 for the pending claim 4:

4. (Once amended) A bank of nucleic acids comprising the repertory of nucleic acids obtained from the method of claim 45.

Please substitute the following claim 6 for the pending claim 6:

6. (Once amended) A method for generating sequences of probes, or primers, or both, useful for the detection of one, more than one related microorganisms, or substantially all microorganisms of a group selected from algae, archaea, bacteria, fungi and parasites, which comprises the steps of:

(a) aligning a subset of nucleic acid sequences of the bank as defined in claim 5;

(b) locating nucleic acid sequence stretches that are present in the nucleic acid sequences of strains or representatives of said one, more than one related microorganisms, or substantially all microorganisms of said group, and not present in the nucleic acid sequences of other microorganisms; and

(c) deriving consensus nucleic acid sequences useful as probes or primers from said stretches.

Please substitute the following claim 7 for the pending claim 7:

7. (Once amended) A method for generating probes, or primers or both, useful for the detection of one, more than one related microorganisms, or substantially all microorganisms of a group selected from algae, archaea, bacteria, fungi and parasites, which comprises the steps of:

- (a) reproducing the method of claim 3; and
- (b) synthesising said probes or primers upon the nucleic acid sequences thereof.

Please substitute the following claim 8 for the pending claim 8:

8. (Once amended) An isolated nucleic acid used for universal detection of any one of alga, archaeon, bacterium, fungus and parasite which is obtained from the method of claim 7.

Please substitute the following claim 9 for the pending claim 9:

9. (Once amended) An isolated nucleic acid used for universal detection as set forth in claim 8, which has a nucleic acid sequence of at least 12 nucleotides capable of hybridizing with said any one of alga, archaeon, bacterium, fungus and parasite and with any one of SEQ ID NOs.: 543, 556-574, 636-655, 658-661, 664, 681-683, 694, 696, 697, 699, 700, 708, 812-815, 911-917, 919-922, 935-938, 1203-1207, 1212-1213, 1221-1229, 1605-1606, 1974-1984, 1999-2003 and 2282-2285.

Please substitute the following claim 10 for the pending claim 10:

10. (Once amended) An isolated nucleic acid used for the specific and ubiquitous detection and for identification of any one of a algal, archaeal, bacterial, fungal and parasitical species, genus, family and group, which is obtained from the method of claim 7.

Please substitute the following claim 11 for the pending claim 11:

11. (Once amended) An isolated nucleic acid as set forth in claim 10 having any one of the nucleotide sequences which are defined in SEQ ID NOs.:

539 and 540	for the detection and/or identification of <i>Mycobacteriaceae</i> family;
541, 542, 544	
and 2121	for the detection and/or identification of Pseudomonads group;
545 and 546	for the detection and/or identification of <i>Corynebacterium</i> sp.;
547, 548 and	
1202	for the detection and/or identification of <i>Streptococcus</i> sp.;
549, 550, 582,	
583, 625, 626,	
627, 628 and	
1199	for the detection and/or identification of <i>Streptococcus agalactiae</i> ;
551, 552,	
2166, 2173,	
2174, 2175,	
2176, 2177,	
2178 and	
2179	for the detection and/or identification of <i>Neisseria gonorrhoeae</i> ;
553, 575, 605,	
606, 707,	
1175 and	
1176	for the detection and/or identification of <i>Staphylococcus</i> sp.;
554, 555 and	
2213	for the detection and/or identification of <i>Chlamydia trachomatis</i> ;
576, 631, 632,	
633, 634, 635,	
1163, 1164,	
1167, 2076,	
2108 and	
2109	for the detection and/or identification of <i>Candida</i> sp.;
577, 1156,	

1160 and 2073 578, 1166, 1168 and 2074 579 and 2168 580, 603, 1174, 1236, 1238, 2289, 2290 and 2291 581 584, 585, 586, 587, 588, 1232, 1234 and 2186 589, 590, 591, 592 and 593 594 and 595 596, 597 and 598 599, 600, 601, 695, 1208 and 1209 602, 1235, 1237, 1696, 1697, 1698, 1699, 1700, 1701, 2286 and 2287 604 620 and 1122  629, 630, 2085, 2086, 2087, 2088, 2089, 2090, 2091 and 2092 636, 637, 638, 639, 640, 641 and 642	for the detection and/or identification of <i>Candida albicans</i> ;  for the detection and/or identification of <i>Candida dubliniensis</i> ; for the detection and/or identification of <i>Escherichia coli</i> ;  for the detection and/or identification of <i>Enterococcus faecalis</i> ; for the detection and/or identification of <i>Haemophilus influenzae</i> ;  for the detection and/or identification of <i>Staphylococcus aureus</i> ; for the detection and/or identification of <i>Staphylococcus epidermidis</i> ; for the detection and/or identification of <i>Staphylococcus haemolyticus</i> ; for the detection and/or identification of <i>Staphylococcus hominis</i> ; for the detection and/or identification of <i>Staphylococcus saprophyticus</i> ;  for the detection and/or identification of <i>Enterococcus faecium</i> ; for the detection and/or identification of <i>Enterococcus gallinarum</i> ; for the detection and/or identification of <i>Enterococcus casseliflavus</i> , <i>E. flavescens</i> and <i>E. gallinarum</i> ;  for the detection and/or identification of <i>Chlamydia pneumoniae</i> ;  for the detection and/or identification of at least the following: <i>Abiotrophia adiacens</i> , <i>Abiotrophia defectiva</i> , <i>Acinetobacter baumannii</i> , <i>Acinetobacter lwoffii</i> , <i>Aerococcus viridans</i> , <i>Bacillus anthracis</i> , <i>Bacillus cereus</i> , <i>Bacillus subtilis</i> , <i>Brucella abortus</i> , <i>Burkholderia cepacia</i> ,
---	---

*Citrobacter diversus*, *Citrobacter freundii*, *Enterobacter aerogenes*, *Enterobacter agglomerans*, *Enterobacter cloacae*, *Enterococcus avium*, *Enterococcus casseliflavus*, *Enterococcus dispar*, *Enterococcus durans*, *Enterococcus faecalis*, *Enterococcus faecium*, *Enterococcus flavescens*, *Enterococcus gallinarum*, *Enterococcus mundtii*, *Enterococcus raffinosus*, *Enterococcus solitarius*, *Escherichia coli*, *Gemella morbillorum*, *Haemophilus ducreyi*, *Haemophilus haemolyticus*, *Haemophilus influenzae*, *Haemophilus parahaemolyticus*, *Haemophilus parainfluenzae*, *Hafnia alvei*, *Kingella kingae*, *Klebsiella oxytoca*, *Klebsiella pneumoniae*, *Legionella pneumophila*, *Megamonas hypermegale*, *Moraxella atlantae*, *Moraxella catarrhalis*, *Morganella morganii*, *Neisseria gonorrhoeae*, *Neisseria meningitidis*, *Pasteurella aerogenes*, *Pasteurella multocida*, *Peptostreptococcus magnus*, *Proteus mirabilis*, *Providencia alcalifaciens*, *Providencia rettgeri*, *Providencia rustigianii*, *Providencia stuartii*, *Pseudomonas aeruginosa*, *Pseudomonas fluorescens*, *Pseudomonas stutzeri*, *Salmonella bongori*, *Salmonella choleraesuis*, *Salmonella enteritidis*, *Salmonella gallinarum*, *Salmonella typhimurium*, *Serratia liquefaciens*, *Serratia marcescens*, *Shigella flexneri*, *Shigella sonnei*, *Staphylococcus aureus*, *Staphylococcus capitis*, *Staphylococcus epidermidis*, *Staphylococcus haemolyticus*, *Staphylococcus hominis*, *Staphylococcus lugdunensis*, *Staphylococcus saprophyticus*, *Staphylococcus simulans*, *Staphylococcus warneri*, *Stenotrophomonas maltophilia*, *Streptococcus acidominimus*, *Streptococcus agalactiae*, *Streptococcus anginosus*, *Streptococcus bovis*, *Streptococcus constellatus*, *Streptococcus cricetus*, *Streptococcus cristatus*, *Streptococcus dysgalactiae*, *Streptococcus equi*, *Streptococcus ferus*, *Streptococcus gordonii*, *Streptococcus intermedius*, *Streptococcus macacae*, *Streptococcus mitis*, *Streptococcus mutans*, *Streptococcus oralis*, *Streptococcus parasanguinis*, *Streptococcus parauberis*, *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Streptococcus ratti*, *Streptococcus salivarius*, *Streptococcus sanguinis*, *Streptococcus sobrinus*, *Streptococcus uberis*, *Streptococcus vestibularis*, *Vibrio cholerae*, *Yersinia enterocolitica*, *Yersinia pestis*, *Yersinia pseudotuberculosis*;

646, 647 and  
648

for the detection and/or identification of members of the *Actinomycetae* class;

649, 650 and  
651

for the detection and/or identification of members of the *Cytophaga-Flexibacter-Bacteroides* (CFB) phylum;

656, 657, 271,  
1136 and  
1137

for the detection and/or identification of *Enterococcus* sp.;

701 and 702

for the detection and/or identification of *Leishmania* sp.;

703, 704, 705, 706 and 793	for the detection and/or identification of <i>Entamoeba</i> sp.;
794 and 795	for the detection and/or identification of <i>Trypanosoma cruzi</i> ;
796, 797, 808, 809, 810 and 811	for the detection and/or identification of <i>Clostridium</i> sp.;
798, 799, 800, 801, 802, 803, 804, 805, 806 and 807	for the detection and/or identification of <i>Cryptosporidium parvum</i> ;
816, 817, 818 and 819	for the detection and/or identification of <i>Giardia</i> sp.;
820, 821 and 822	for the detection and/or identification of <i>Trypanosoma brucei</i> ;
823 and 824	for the detection and/or identification of <i>Trypanosoma</i> sp.;
825 and 826	for the detection and/or identification of <i>Bordetella</i> sp.;
923, 924, 925, 926, 927 and 928	for the detection and/or identification of <i>Trypanosomatidae</i> family;
933 and 934	for the detection and/or identification of members of the <i>Enterobacteriaceae</i> group;
994, 995, 996, 997, 998, 999, 1000, 1001, 1200, 1210 and 1211	for the detection and/or identification of <i>Streptococcus pyogenes</i> ;
1157, 2079 and 2118	for the detection and/or identification of <i>Candida parapsilosis</i> ;
1158, 1159, 2078, 2110 and 2111	for the detection and/or identification of <i>Candida glabrata</i> ;
1160, 2077, 2119 and 2120	for the detection and/or identification of <i>Candida tropicalis</i> ;
1161, 2075, 2112, 2113 and 2114	for the detection and/or identification of <i>Candida krusei</i> ;
1162	for the detection and/or identification of <i>Candida guilliermondii</i> ;
1162, 2080, 2115, 2116	

and 2117	for the detection and/or identification of <i>Candida lusitaniae</i> ;
1165	for the detection and/or identification of <i>Candida zeylanoides</i> ;
1201	for the detection and/or identification of <i>Streptococcus pneumoniae</i> ;
1233	for the detection and/or identification of <i>Staphylococcus</i> sp. other than <i>S. aureus</i> ;
1329, 1330, 1331, 1332, 2167 and 2281	for the detection and/or identification of <i>Klebsiella pneumoniae</i> ;
1661 and 1665	for the detection and/or identification of <i>Escherichia coli</i> and <i>Shigella</i> sp.;
1690, 1691, 1692, 1693 and 2169	for the detection and/or identification of <i>Acinetobacter baumannii</i> ;
1694, 1695 and 2122	for the detection and/or identification of <i>Pseudomonas aeruginosa</i> ;
1971, 1972 and 1973	for the detection and/or identification of <i>Cryptococcus</i> sp.;
2081, 2082 and 2083	for the detection and/or identification of <i>Legionella</i> sp.;
2084	for the detection and/or identification of <i>Legionella pneumophila</i> ;
2093, 2094, 2095 and 2096	for the detection and/or identification of <i>Mycoplasma pneumoniae</i> ;
2106 and 2107	for the detection and/or identification of <i>Cryptococcus neoformans</i> ;
2131, 2132 and 2133	for the detection and/or identification of <i>Campylobacter jejuni</i> and <i>C. coli</i> ;
2134, 2135 and 2136	for the detection and/or identification of <i>Bacteroides fragilis</i> ;
2170	for the detection and/or identification of <i>Abiotrophia adiacens</i> ;
2171	for the detection and/or identification of <i>Gemella</i> sp.;
2172	for the detection and/or identification of <i>Enterococcus</i> sp., <i>Gemella</i> sp., <i>A. adiacens</i> ;
2180, 2181 and 2182	for the detection and/or identification of <i>Bordetella pertussis</i> ; and
2186	for the detection and/or identification of <i>Staphylococcus aureus</i> .



Please substitute the following claim 12 for the pending claim 12:

12. (Once amended) A method for detecting the presence in a test sample of a microorganism that is an alga, archaeum, bacterium, fungus or parasite, which comprises:

(a) putting in contact any test sample *tuf* or *atpD* or *recA* nucleic acids and nucleic acid primers and/or probes, said primers and/or probes having been selected to be sufficiently complementary to hybridize to one or more *tuf* or *atpD* or *recA* nucleic acids that are specific to said group of microorganisms;

(b) allowing the primers and/or probes and any test sample *tuf* or *atpD* or *recA* nucleic acids to hybridize under specified conditions such as said primers and/or probes hybridize to the *tuf* or *atpD* or *recA* nucleic acids of said microorganism and does not detectably hybridize to *tuf* or *atpD* or *recA* sequences from other microorganisms; and,

(c) testing for hybridization of said primers and/or probes to any test sample *tuf* or *atpD* or *recA* nucleic acids.

Please substitute the following claim 13 for the pending claim 13:

13. (Once amended) The method of claim 12 wherein (c) is based on a nucleic acid target amplification method.

Please substitute the following claim 14 for the pending claim 14:

14. (Once amended) The method of claim 12 wherein (c) is based on a signal amplification method.

Please substitute the following claim 15 for the pending claim 15:

15. (Once amended) The method of claim 12 wherein said primers and/or probes that are sufficiently complementary are perfectly complementary.

Please substitute the following claim 16 for the pending claim 16:

16. (Once amended) The method of claim 12 wherein said primers and/or probes that are sufficiently complementary are not perfectly complementary.

Please substitute the following claim 17 for the pending claim 17:

17. (Once amended) A method for the specific detection and/or identification of a microorganism that is an algal, archaeal, bacterial, fungal or parasitical species, genus, family or group in any sample, using a panel of probes or amplification primers or both, each individual probe or primer being derived from a nucleic acid which has a nucleotide sequence of at least 12 nucleotides in length capable of hybridizing with the nucleic acids of said microorganism and with a nucleic acid having any one of the nucleotide sequences defined in SEQ ID NOs.:

539 and 540	for the detection and/or identification of <i>Mycobacteriaceae</i> family;
541, 542, 544 and 2121	for the detection and/or identification of Pseudomonads group;
545 and 546	for the detection and/or identification of <i>Corynebacterium</i> sp.;
547, 548 and 1202	for the detection and/or identification of <i>Streptococcus</i> sp.;
549, 550, 582, 583, 625, 626, 627, 628 and 1199	for the detection and/or identification of <i>Streptococcus agalactiae</i> ;

551, 552, 2166, 2173, 2174, 2175, 2176, 2177, 2178 and 2179	for the detection and/or identification of <i>Neisseria gonorrhoeae</i> ;
553, 575, 605, 606, 707, 1175 and 1176	for the detection and/or identification of <i>Staphylococcus</i> sp.;
554, 555 and 2213	for the detection and/or identification of <i>Chlamydia trachomatis</i> ;
576, 631, 632, 633, 634, 635, 1163, 1164, 1167, 2076, 2108 and 2109	for the detection and/or identification of <i>Candida</i> sp.;
577, 1156, 1160 and 2073	for the detection and/or identification of <i>Candida albicans</i> ;
578, 1166, 1168 and 2074	for the detection and/or identification of <i>Candida dubliniensis</i> ;
579 and 2168	for the detection and/or identification of <i>Escherichia coli</i> ;
580, 603, 1174, 1236, 1238, 2289, 2290 and 2291	for the detection and/or identification of <i>Enterococcus faecalis</i> ;
581	for the detection and/or identification of <i>Haemophilus influenzae</i> ;
584, 585, 586, 587, 588, 1232, 1234 and 2186	for the detection and/or identification of <i>Staphylococcus aureus</i> ;
589, 590, 591, 592 and 593	for the detection and/or identification of <i>Staphylococcus epidermidis</i> ;
594 and 595	for the detection and/or identification of <i>Staphylococcus haemolyticus</i> ;
596, 597 and 598	for the detection and/or identification of <i>Staphylococcus hominis</i> ;

599, 600, 601, 695, 1208 and 1209	for the detection and/or identification of <i>Staphylococcus saprophyticus</i> ;
602, 1235, 1237, 1696, 1697, 1698, 1699, 1700, 1701, 2286 and 2287	for the detection and/or identification of <i>Enterococcus faecium</i> ;
604	for the detection and/or identification of <i>Enterococcus gallinarum</i> ;
620 and 1122	for the detection and/or identification of <i>Enterococcus casseliflavus</i> , <i>E. flavescens</i> and <i>E. gallinarum</i> ;
629, 630, 2085, 2086, 2087, 2088, 2089, 2090, 2091 and 2092	for the detection and/or identification of <i>Chlamydia pneumoniae</i> ;
636, 637, 638, 639, 640, 641 and 642	for the detection and/or identification of at least the following: <i>Abiotrophia adiacens</i> , <i>Abiotrophia defectiva</i> , <i>Acinetobacter baumannii</i> , <i>Acinetobacter lwoffii</i> , <i>Aerococcus viridans</i> , <i>Bacillus anthracis</i> , <i>Bacillus cereus</i> , <i>Bacillus subtilis</i> , <i>Brucella abortus</i> , <i>Burkholderia cepacia</i> , <i>Citrobacter diversus</i> , <i>Citrobacter freundii</i> , <i>Enterobacter aerogenes</i> , <i>Enterobacter agglomerans</i> , <i>Enterobacter cloacae</i> , <i>Enterococcus avium</i> , <i>Enterococcus casseliflavus</i> , <i>Enterococcus dispar</i> , <i>Enterococcus durans</i> , <i>Enterococcus faecalis</i> , <i>Enterococcus faecium</i> , <i>Enterococcus flavescens</i> , <i>Enterococcus gallinarum</i> , <i>Enterococcus mundtii</i> , <i>Enterococcus raffinosus</i> , <i>Enterococcus solitarius</i> , <i>Escherichia coli</i> , <i>Gemella morbillorum</i> , <i>Haemophilus ducreyi</i> , <i>Haemophilus haemolyticus</i> , <i>Haemophilus influenzae</i> , <i>Haemophilus parahaemolyticus</i> , <i>Haemophilus parainfluenzae</i> , <i>Hafnia alvei</i> , <i>Kingella kingae</i> , <i>Klebsiella oxytoca</i> , <i>Klebsiella pneumoniae</i> , <i>Legionella pneumophila</i> , <i>Megamonas hypermegale</i> , <i>Moraxella atlantae</i> , <i>Moraxella catarrhalis</i> , <i>Morganella morganii</i> , <i>Neisseria gonorrhoeae</i> , <i>Neisseria meningitidis</i> , <i>Pasteurella aerogenes</i> , <i>Pasteurella multocida</i> , <i>Peptostreptococcus magnus</i> , <i>Proteus mirabilis</i> , <i>Providencia alcalifaciens</i> , <i>Providencia rettgeri</i> , <i>Providencia rustigianii</i> , <i>Providencia stuartii</i> , <i>Pseudomonas aeruginosa</i> , <i>Pseudomonas fluorescens</i> , <i>Pseudomonas stutzeri</i> , <i>Salmonella bongori</i> , <i>Salmonella choleraesuis</i> , <i>Salmonella enteritidis</i> , <i>Salmonella gallinarum</i> , <i>Salmonella typhimurium</i> , <i>Serratia liquefaciens</i> , <i>Serratia marcescens</i> , <i>Shigella flexneri</i> , <i>Shigella sonnei</i> , <i>Staphylococcus aureus</i> , <i>Staphylococcus capitis</i> , <i>Staphylococcus epidermidis</i> , <i>Staphylococcus haemolyticus</i> , <i>Staphylococcus hominis</i> , <i>Staphylococcus lugdunensis</i> , <i>Staphylococcus saprophyticus</i> ,

*Staphylococcus simulans*, *Staphylococcus warneri*,  
*Stenotrophomonas maltophilia*, *Streptococcus acidominimus*, *Streptococcus agalactiae*,  
*Streptococcus anginosus*, *Streptococcus bovis*, *Streptococcus constellatus*, *Streptococcus cricetus*, *Streptococcus cristatus*,  
*Streptococcus dysgalactiae*, *Streptococcus equi*, *Streptococcus ferus*,  
*Streptococcus gordonii*, *Streptococcus intermedius*, *Streptococcus macacae*, *Streptococcus mitis*, *Streptococcus mutans*, *Streptococcus oralis*,  
*Streptococcus parasanguinis*, *Streptococcus parauberis*, *Streptococcus pneumoniae*, *Streptococcus pyogenes*, *Streptococcus rattii*,  
*Streptococcus salivarius*, *Streptococcus sanguinis*, *Streptococcus sobrinus*, *Streptococcus uberis*, *Streptococcus vestibularis*, *Vibrio cholerae*,  
*Yersinia enterocolitica*, *Yersinia pestis*, *Yersinia pseudotuberculosis*;

- |  |  |
|--|--|
| 646, 647 and<br>648  | for the detection and/or identification of members of the <i>Actinomycetae</i> class;                            |
| 649, 650 and<br>651  | for the detection and/or identification of members of the <i>Cytophaga-Flexibacter-Bacteroides</i> (CFB) phylum; |
| 656, 657, 271,<br>1136 and<br>1137                           | for the detection and/or identification of <i>Enterococcus</i> sp.;  |
| 701 and 702  | for the detection and/or identification of <i>Leishmania</i> sp.;  |
| 703, 704, 705,<br>706 and 793                                | for the detection and/or identification of <i>Entamoeba</i> sp.;   |
| 794 and 795  | for the detection and/or identification of <i>Trypanosoma cruzi</i> ;  |
| 796, 797, 808,<br>809, 810 and<br>811                        | for the detection and/or identification of <i>Clostridium</i> sp.;   |
| 798, 799, 800,<br>801, 802, 803,<br>804, 805, 806<br>and 807 | for the detection and/or identification of <i>Cryptosporidium parvum</i> ;                                       |
| 816, 817, 818<br>and 819                                     | for the detection and/or identification of <i>Giardia</i> sp.;   |
| 820, 821 and<br>822  | for the detection and/or identification of <i>Trypanosoma brucei</i> ;   |
| 823 and 824  | for the detection and/or identification of <i>Trypanosoma</i> sp.;   |
| 825 and 826  | for the detection and/or identification of <i>Bordetella</i> sp.;  |
| 923, 924, 925,<br>926, 927 and<br>928                        | for the detection and/or identification of <i>Trypanosomatidae</i> family;                                       |
| 933 and 934  | for the detection and/or identification of members of the <i>Enterobacteriaceae</i> group;                       |

994, 995, 996, 997, 998, 999, 1000, 1001, 1200, 1210 and 1211	for the detection and/or identification of <i>Streptococcus pyogenes</i> ;
1157, 2079 and 2118	for the detection and/or identification of <i>Candida parapsilosis</i> ;
1158, 1159, 2078, 2110 and 2111	for the detection and/or identification of <i>Candida glabrata</i> ;
1160, 2077, 2119 and 2120	for the detection and/or identification of <i>Candida tropicalis</i> ;
1161, 2075, 2112, 2113 and 2114	for the detection and/or identification of <i>Candida krusei</i> ;
1162	for the detection and/or identification of <i>Candida guilliermondii</i> ;
1162, 2080, 2115, 2116 and 2117	for the detection and/or identification of <i>Candida lusitanae</i> ;
1165	for the detection and/or identification of <i>Candida zeylanoides</i> ;
1201	for the detection and/or identification of <i>Streptococcus pneumoniae</i> ;
1233	for the detection and/or identification of <i>Staphylococcus</i> sp. other than <i>S. aureus</i> ;
1329, 1330, 1331, 1332, 2167 and 2281	for the detection and/or identification of <i>Klebsiella pneumoniae</i> ;
1661 and 1665	for the detection and/or identification of <i>Escherichia coli</i> and <i>Shigella</i> sp.;
1690, 1691, 1692, 1693 and 2169	for the detection and/or identification of <i>Acinetobacter baumannii</i> ;
1694, 1695 and 2122	for the detection and/or identification of <i>Pseudomonas aeruginosa</i> ;
1971, 1972 and 1973	for the detection and/or identification of <i>Cryptococcus</i> sp.;
2081, 2082 and 2083	for the detection and/or identification of <i>Legionella</i> sp.;
2084	for the detection and/or identification of <i>Legionella pneumophila</i> ;
2093, 2094, 2095 and 2096	for the detection and/or identification of <i>Mycoplasma pneumoniae</i> ;
2106 and	

2107	for the detection and/or identification of <i>Cryptococcus neoformans</i> ;
2131, 2132 and 2133	for the detection and/or identification of <i>Campylobacter jejuni</i> and <i>C. coli</i> ;
2134, 2135 and 2136	for the detection and/or identification of <i>Bacteroides fragilis</i> ;
2170	for the detection and/or identification of <i>Abiotrophia adiacens</i> ;
2171	for the detection and/or identification of <i>Gemella</i> sp.;
2172	for the detection and/or identification of <i>Enterococcus</i> sp., <i>Gemella</i> sp., <i>A. adiacens</i> ;
2180, 2181 and 2182	for the detection and/or identification of <i>Bordetella pertussis</i> ; and
2186	for the detection and/or identification of <i>Staphylococcus aureus</i> ,

said method comprising contacting the nucleic acids of the sample with said primers or probes under suitable conditions of hybridization or of amplification and detecting the presence of hybridized probes or amplified products as an indication of the presence of said specific algal, archaeal, bacterial, fungal or parasitical species, genus, family or group.

Please substitute the following claim 18 for the pending claim 18:

18. (Once amended) A method for the universal detection of any bacterium, fungus or parasite in a sample, using a panel of probes or amplification primers or both, each individual probe or primer being derived from a nucleic acid as defined in claim 8, the method comprising contacting the nucleic acids of the sample with said primers or probes under suitable conditions of hybridization or of amplification and detecting the presence of any alga, archaeon, bacterium, fungus or parasite.

Please substitute the following claim 19 for the pending claim 19:

19. (Once amended) A method as set forth in claim 17, which further comprises probes or primers, or both, for the detection of at least one antimicrobial agent resistance gene.

Please substitute the following claim 20 for the pending claim 20:

20. (Once amended) A method as set forth in claim 17, which further comprises probes or primers, or both, for the detection of at least one toxin gene.

Please substitute the following claim 21 for the pending claim 21:

21. (Once amended) A method as set forth in claim 48, wherein the probes or primers for the detection of said antimicrobial agent resistance gene or toxin gene have at least 12 nucleotides in length capable of hybridizing with an antimicrobial agent resistance gene and/or toxin gene selected from SEQ ID NOs.:

1078, 1079 and 1085	for the detection and/or identification of the <i>E. coli</i> Shiga-like toxin 2 ( <i>stx</i> <sub>2</sub> ) gene;
1080, 1081, 1084 and 2012	for the detection and/or identification of the <i>E. coli</i> Shiga-like toxin 1 ( <i>stx</i> <sub>1</sub> ) gene;
1082 and 1083	for the detection and/or identification of <i>E. coli</i> Shiga-like toxins 1 and 2 ( <i>stx</i> ) genes;
1086, 1087, 1088, 1089, 1090, 1091, 1092, 1170, 1239, 1240 and 2292 1095, 1096,	for the detection and/or identification of the <i>vanA</i> resistance gene;



1171, 1241,  
2294 and  
2295 for the detection and/or identification of the *vanB* resistance gene;  
1111, 1112,  
1113, 1114,  
1115, 1116,  
1118, 1119,  
1120, 1121,  
1123 and  
1124 for the detection and/or identification of the *vanAB* resistance genes;  
1103, 1104,  
1109 and  
1110 for the detection and/or identification of the *vanC1* resistance gene;  
1105, 1106,  
1107 and  
1108 for the detection and/or identification of the *vanC2* and *vanC3* resistance  
genes;  
1097, 1098,  
1099, 1100,  
1101 and  
1102 for the detection and/or identification of the *vanC1*, *vanC2* and *vanC3*  
resistance genes;  
1150, 1153,  
1154 and  
1155 for the detection and/or identification of the *vanAXY* resistance genes;  
1094, 1125,  
1126, 1127,  
1128, 1129,  
1130, 1131,  
1132, 1133,  
1134, 1135,  
1192, 1193,  
1194, 1195,  
1196, 1197,  
1214, 1216,  
1217, 1218,  
1219, 1220,  
2015, 2016,  
2017, 2018,  
2019, 2020,  
2021, 2022,  
2023, 2024,  
2025, 2026,  
2027, 2028,  
2029, 2030,

2031, 2032,  
2033, 2034,  
2035, 2036,  
2037, 2038

and 2039

for the detection and/or identification of the *S. pneumoniae pbp1a* gene;

1142, 1143,  
1144 and

1145

for the detection and/or identification of the *S. pneumoniae pbp2b* gene;

1146, 1147,  
1148 and

1149

for the detection and/or identification of the *S. pneumoniae pbp2x* gene;

1177 and

1231

for the detection and/or identification of the *mecA* resistance gene;

1290, 1291,

1292, 1293,

1294, 1295,

1296, 1297,

1298, 1333,

1334, 1335,

1340, 1341,

1936, 1937,

1940, 1942,

1943, 1945,

1946, 1947,

1948, 1949,

2040, 2041,

2042, 2043,

2250 and

2251

for the detection and/or identification of the *gyrA* resistance gene;

1301, 1302,

1303, 1304,

1305 and

1306

for the detection and/or identification of the *gyrB* resistance gene;

1308, 1309,

1310, 1311,

1312, 1313,

1314, 1315,

1316, 1317,

1318, 1319,

1336, 1337,

1338, 1339,

1342, 1343,

1934, 1935,

1938, 1939,

1941, 1944,

1950, 1951, 1952, 1953, 1955, 2044, 2045 and 2046	for the detection and/or identification of the <i>parC</i> resistance gene;
1322, 1323, 1324, 1325, 1326 and 1327	for the detection and/or identification of the <i>parE</i> resistance gene;
1344, 1345, 1346 and 1347	for the detection and/or identification of the <i>aac(2')-Ia</i> resistance gene;
1349 and 1350	for the detection and/or identification of the <i>aac(3')-Ib</i> resistance gene;
1352, 1353, 1354 and 1355	for the detection and/or identification of the <i>aac(3')-IIb</i> resistance gene;
1357, 1358, 1359 and 1360	for the detection and/or identification of the <i>aac(3')-IVa</i> resistance gene;
1362, 1363, 1364 and 1365	for the detection and/or identification of the <i>aac(3')-VIa</i> resistance gene;
1367, 1368, 1369 and 1370	for the detection and/or identification of the <i>aac(6')-Ia</i> resistance gene;
1372, 1373, 1374 and 1375	for the detection and/or identification of the <i>aac(6')-Ic</i> resistance gene;
1377, 1378, 1379 and 1380	for the detection and/or identification of the <i>ant(3')-Ia</i> resistance gene;
1382, 1383, 1384 and 1385	for the detection and/or identification of the <i>ant(4')-Ia</i> resistance gene;
1387, 1388, 1389 and 1390	for the detection and/or identification of the <i>aph(3')-Ia</i> resistance gene;
1392, 1393, 1394 and 1395	for the detection and/or identification of the <i>aph(3')-IIa</i> resistance gene;
1397, 1398, 1399 and 1400	for the detection and/or identification of the <i>aph(3')-IIIa</i> resistance gene;
1402, 1403,	

1404, 1405 and 2252	for the detection and/or identification of the <i>aph(3')-Vla</i> resistance gene;
1407, 1408, 1409 and 1410	for the detection and/or identification of the <i>blaCARB</i> resistance genes;
1412, 1413, 1414 and 1415	for the detection and/or identification of the <i>blaCMY-2</i> resistance gene;
1417 and 1418	for the detection and/or identification of the <i>blaCTX-M-1</i> and <i>blaCTX-M-2</i> resistance genes;
1419, 1420, 1421 and 1422	for the detection and/or identification of the <i>blaCTX-M-1</i> resistance gene;
1424, 1425, 1426 and 1427	for the detection and/or identification of the <i>blaCTX-M-2</i> resistance gene;
1429, 1430, 1431 and 1432	for the detection and/or identification of the <i>blaIMP</i> resistance genes;
1434 and 1435	for the detection and/or identification of the <i>blaOXA2</i> resistance gene;
1436 and 1437	for the detection and/or identification of the <i>blaOXA10</i> resistance gene;
1440 and 1441	for the detection and/or identification of the <i>blaPER-1</i> resistance gene;
1443 and 1444	for the detection and/or identification of the <i>blaPER-2</i> resistance gene;
1446, 1447, 1448 and 1449	for the detection and/or identification of the <i>blaPER-1</i> and <i>blaPER-2</i> resistance genes;
1450 and 1451	for the detection and/or identification of the <i>dhfrA</i> resistance gene;
1453, 1454, 1455 and 1456	for the detection and/or identification of the <i>dhfrIa</i> and <i>dhfrXV</i> resistance genes;
1457, 1458, 1459, 1460 and 2253	for the detection and/or identification of the <i>dhfrIa</i> resistance gene;
1462, 1463, 1464 and	

1465	for the detection and/or identification of the <i>dhfrIb</i> and <i>dhfrV</i> resistance genes;
1466, 1467, 1468 and 1469	for the detection and/or identification of the <i>dhfrIb</i> resistance gene;
1471, 1472, 1473 and 1474	for the detection and/or identification of the <i>dhfrV</i> resistance gene;
1476, 1477, 1478 and 1479	for the detection and/or identification of the <i>dhfrVI</i> resistance gene;
1481, 1482, 1483 and 1484	for the detection and/or identification of the <i>dhfrVII</i> and <i>dhfrXVII</i> resistance genes;
1485, 1486, 1487 and 1488	for the detection and/or identification of the <i>dhfrVII</i> resistance gene;
1490, 1491, 1492 and 1493	for the detection and/or identification of the <i>dhfrVIII</i> resistance gene;
1495, 1496, 1497 and 1498	for the detection and/or identification of the <i>dhfrIX</i> resistance gene;
1500, 1501, 1502 and 1503	for the detection and/or identification of the <i>dhfrXII</i> resistance gene;
1505 and 1506	for the detection and/or identification of the <i>dhfrXIII</i> resistance gene;
1508, 1509, 1510 and 1511	for the detection and/or identification of the <i>dhfrXV</i> resistance gene;
1513, 1514, 1515 and 1516	for the detection and/or identification of the <i>dhfrXVII</i> resistance gene;
1528 and 1529	for the detection and/or identification of the <i>ereA</i> and <i>ereA2</i> resistance genes;
1531, 1532, 1533 and 1534	for the detection and/or identification of the <i>ereB</i> resistance gene;
1536, 1537, 1538 and 1539	for the detection and/or identification of the <i>linA</i> and <i>linA'</i> resistance genes;

1541, 1542, 1543 and 1544	for the detection and/or identification of the <i>linB</i> resistance gene;
1546 and 1547	for the detection and/or identification of the <i>mefA</i> resistance gene;
1549 and 1550	for the detection and/or identification of the <i>mefE</i> resistance gene;
1552, 1553, 1554 and 1555	for the detection and/or identification of the <i>mefA</i> and <i>mefE</i> resistance genes;
1556, 1557, 1558 and 1559	for the detection and/or identification of the <i>mphA</i> and <i>mphK</i> resistance genes;
1581, 1582, 1583 and 1584	for the detection and/or identification of the <i>satG</i> resistance gene;
1586, 1587, 1588, 1589 and 2254	for the detection and/or identification of the <i>tetM</i> resistance gene;
1591, 1592, 1593 and 2297	for the detection and/or identification of the <i>vanD</i> resistance gene;
1595, 1596, 1597 and 1598	for the detection and/or identification of the <i>vanE</i> resistance gene;
1609, 1610, 1611 and 1612	for the detection and/or identification of the <i>vatB</i> resistance gene;
1614, 1615, 1616 and 1617	for the detection and/or identification of the <i>vatC</i> resistance gene;
1619, 1620, 1621 and 1622	for the detection and/or identification of the <i>vga</i> resistance gene;
1624, 1625, 1626 and 1627	for the detection and/or identification of the <i>vgaB</i> resistance gene;
1629, 1630, 1631 and 1632	for the detection and/or identification of the <i>vgb</i> and <i>vgh</i> resistance genes;

1634, 1635,  
1636 and  
1637 for the detection and/or identification of the *vgbB* resistance gene;  
1883, 1884,  
1885, 1886,  
1887, 1888,  
1889, 1890,  
1891, 1892,  
1893, 1894,  
1895, 1896,  
1897 and  
1898 for the detection and/or identification of the *blaSHV* resistance genes;  
1906, 1907,  
1908, 1909,  
1910, 1911,  
1912, 1913,  
1914, 1915,  
1916, 1917,  
1918, 1919,  
1920, 1921,  
1922, 1923,  
1924, 1925,  
1926, 2006,  
2007, 2008,  
2009 and  
2141 for the detection and/or identification of the *blaTEM* resistance genes;  
1961, 1962,  
1963 and  
1964 for the detection and/or identification of the *sulII* resistance gene;  
1966, 1967,  
1968 and  
1969 for the detection and/or identification of the *tetB* resistance gene;  
2065, 2066,  
2067, 2068,  
2069, 2070  
and 2071 for the detection and/or identification of the *rpoB* resistance gene;  
2098, 2099  
and 2100 for the detection and/or identification of the *inhA* resistance gene;  
2102, 2103  
and 2104 for the detection and/or identification of the *embB* resistance gene;  
2123, 2124  
and 2125 for the detection and/or identification of the *C. difficile cdtA* toxin gene;  
2126, 2127  
and 2128 for the detection and/or identification of the *C. difficile cdtB* toxin gene;  
2142 and

2143 for the detection and/or identification of the *mupA* resistance gene;  
2145 and  
2146 for the detection and/or identification of the *catI* resistance gene;  
2148 and  
2149 for the detection and/or identification of the *catII* resistance gene;  
2151 and  
2152 for the detection and/or identification of the *catIII* resistance gene;  
2154 and  
2155 for the detection and/or identification of the *catP* resistance gene;  
2157, 2158,  
2160 and  
2161 for the detection and/or identification of the *cat* resistance gene; and  
2163 and  
2164 for the detection and/or identification of the *ppflo*-like resistance gene.

Please substitute the following claim 22 for the pending claim 22:

22. (Once amended) A composition of matter comprising:

- (a) (i) a specific nucleic acid as set forth in claim 10, which is specific for a bacterial, fungal or parasitical species, genus, family, or group, or (ii) a nucleic acid as set forth in claim 8 which is universal for a bacterium, fungus or parasite, or both specific and universal nucleic acids; and
- (b) a nucleic acid sequence of at least 12 nucleotides capable of hybridizing with an antimicrobial agent resistance gene and/or toxin gene.

Please substitute the following claim 23 for the pending claim 23:

23. (Once amended) A composition as set forth in claim 22, wherein the nucleic acid capable of hybridizing with an antimicrobial agent resistance gene and/or toxin gene is any one of:



1078, 1079 and 1085	for the detection and/or identification of the <i>E. coli</i> Shiga-like toxin 2 ( <i>stx</i> <sub>2</sub> ) gene;
1080, 1081, 1084 and 2012	for the detection and/or identification of the <i>E. coli</i> Shiga-like toxin 1 ( <i>stx</i> <sub>1</sub> ) gene;
1082 and 1083	for the detection and/or identification of <i>E. coli</i> Shiga-like toxins 1 and 2 ( <i>stx</i> ) genes;
1086, 1087, 1088, 1089, 1090, 1091, 1092, 1170, 1239, 1240 and 2292	for the detection and/or identification of the <i>vanA</i> resistance gene;
1095, 1096, 1171, 1241, 2294 and 2295	for the detection and/or identification of the <i>vanB</i> resistance gene;
1111, 1112, 1113, 1114, 1115, 1116, 1118, 1119, 1120, 1121, 1123 and 1124	for the detection and/or identification of the <i>vanAB</i> resistance genes;
1103, 1104, 1109 and 1110	for the detection and/or identification of the <i>vanC1</i> resistance gene;
1105, 1106, 1107 and 1108	for the detection and/or identification of the <i>vanC2</i> and <i>vanC3</i> resistance genes;
1097, 1098, 1099, 1100, 1101 and 1102	for the detection and/or identification of the <i>vanC1</i> , <i>vanC2</i> and <i>vanC3</i> resistance genes;
1150, 1153, 1154 and 1155	for the detection and/or identification of the <i>vanAXY</i> resistance genes;
1094, 1125, 1126, 1127, 1128, 1129,	

1130, 1131,  
1132, 1133,  
1134, 1135,  
1192, 1193,  
1194, 1195,  
1196, 1197,  
1214, 1216,  
1217, 1218,  
1219, 1220,  
2015, 2016,  
2017, 2018,  
2019, 2020,  
2021, 2022,  
2023, 2024,  
2025, 2026,  
2027, 2028,  
2029, 2030,  
2031, 2032,  
2033, 2034,  
2035, 2036,  
2037, 2038  
and 2039  
1142, 1143,  
1144 and  
1145  
1146, 1147,  
1148 and  
1149  
1177 and  
1231  
1290, 1291,  
1292, 1293,  
1294, 1295,  
1296, 1297,  
1298, 1333,  
1334, 1335,  
1340, 1341,  
1936, 1937,  
1940, 1942,  
1943, 1945,  
1946, 1947,  
1948, 1949,  
2040, 2041,  
2042, 2043,  
2250 and

for the detection and/or identification of the *S. pneumoniae pbp1a* gene;

for the detection and/or identification of the *S. pneumoniae pbp2b* gene;

for the detection and/or identification of the *S. pneumoniae pbp2x* gene;

for the detection and/or identification of the *mecA* resistance gene;

2251	for the detection and/or identification of the <i>gyrA</i> resistance gene;
1301, 1302,	
1303, 1304,	
1305 and	
1306	for the detection and/or identification of the <i>gyrB</i> resistance gene;
1308, 1309,	
1310, 1311,	
1312, 1313,	
1314, 1315,	
1316, 1317,	
1318, 1319,	
1336, 1337,	
1338, 1339,	
1342, 1343,	
1934, 1935,	
1938, 1939,	
1941, 1944,	
1950, 1951,	
1952, 1953,	
1955, 2044,	
2045 and	
2046	for the detection and/or identification of the <i>parC</i> resistance gene;
1322, 1323,	
1324, 1325,	
1326 and	
1327	for the detection and/or identification of the <i>parE</i> resistance gene;
1344, 1345,	
1346 and	
1347	for the detection and/or identification of the <i>aac(2')-Ia</i> resistance gene;
1349 and	
1350	for the detection and/or identification of the <i>aac(3')-Ib</i> resistance gene;
1352, 1353,	
1354 and	
1355	for the detection and/or identification of the <i>aac(3')-IIb</i> resistance gene;
1357, 1358,	
1359 and	
1360	for the detection and/or identification of the <i>aac(3')-IVa</i> resistance gene;
1362, 1363,	
1364 and	
1365	for the detection and/or identification of the <i>aac(3')-VIa</i> resistance gene;
1367, 1368,	
1369 and	
1370	for the detection and/or identification of the <i>aac(6')-Ia</i> resistance gene;
1372, 1373,	
1374 and	

1375	for the detection and/or identification of the <i>aac(6')-Ic</i> resistance gene;
1377, 1378, 1379 and 1380	for the detection and/or identification of the <i>ant(3')-Ia</i> resistance gene;
1382, 1383, 1384 and 1385	for the detection and/or identification of the <i>ant(4')-Ia</i> resistance gene;
1387, 1388, 1389 and 1390	for the detection and/or identification of the <i>aph(3')-Ia</i> resistance gene;
1392, 1393, 1394 and 1395	for the detection and/or identification of the <i>aph(3')-IIa</i> resistance gene;
1397, 1398, 1399 and 1400	for the detection and/or identification of the <i>aph(3')-IIIa</i> resistance gene;
1402, 1403, 1404, 1405 and 2252	for the detection and/or identification of the <i>aph(3')-VIa</i> resistance gene;
1407, 1408, 1409 and 1410	for the detection and/or identification of the <i>blaCARB</i> resistance gene;
1412, 1413, 1414 and 1415	for the detection and/or identification of the <i>blaCMY-2</i> resistance gene;
1417 and 1418	for the detection and/or identification of the <i>blaCTX-M-1</i> and <i>blaCTX-M-2</i> resistance genes;
1419, 1420, 1421 and 1422	for the detection and/or identification of the <i>blaCTX-M-1</i> resistance gene;
1424, 1425, 1426 and 1427	for the detection and/or identification of the <i>blaCTX-M-2</i> resistance gene;
1429, 1430, 1431 and 1432	for the detection and/or identification of the <i>blaIMP</i> resistance gene;
1434 and 1435	for the detection and/or identification of the <i>blaOXA2</i> resistance gene;
1436 and 1437	for the detection and/or identification of the <i>blaOXA10</i> resistance gene;
1440 and 1441	for the detection and/or identification of the <i>blaPER-1</i> resistance gene;

1443 and 1444 1446, 1447, 1448 and 1449	for the detection and/or identification of the <i>blaPER-2</i> resistance gene;  for the detection and/or identification of the <i>blaPER-1</i> and <i>blaPER-2</i> resistance genes;
1450 and 1451 1453, 1454, 1455 and 1456	for the detection and/or identification of the <i>dhfrA</i> resistance gene;  for the detection and/or identification of the <i>dhfrIa</i> and <i>dhfrXV</i> resistance genes;
1457, 1458, 1459, 1460 and 2253 1462, 1463, 1464 and 1465	for the detection and/or identification of the <i>dhfrIa</i> resistance gene;  for the detection and/or identification of the <i>dhfrIb</i> and <i>dhfrV</i> resistance genes;
1466, 1467, 1468 and 1469 1471, 1472, 1473 and 1474 1476, 1477, 1478 and 1479	for the detection and/or identification of the <i>dhfrIb</i> resistance gene;  for the detection and/or identification of the <i>dhfrV</i> resistance gene;  for the detection and/or identification of the <i>dhfrVI</i> resistance gene;
1481, 1482, 1483 and 1484	for the detection and/or identification of the <i>dhfrVII</i> and <i>dhfrXVII</i> resistance genes;
1485, 1486, 1487 and 1488 1490, 1491, 1492 and 1493 1495, 1496, 1497 and 1498	for the detection and/or identification of the <i>dhfrVII</i> resistance gene;  for the detection and/or identification of the <i>dhfrVIII</i> resistance gene;  for the detection and/or identification of the <i>dhfrIX</i> resistance gene;
1500, 1501, 1502 and 1503 1505 and	for the detection and/or identification of the <i>dhfrXII</i> resistance gene;

1506	for the detection and/or identification of the <i>dhfrXIII</i> resistance gene;
1508, 1509, 1510 and 1511	for the detection and/or identification of the <i>dhfrXV</i> resistance gene;
1513, 1514, 1515 and 1516	for the detection and/or identification of the <i>dhfrXVII</i> resistance gene;
1528 and 1529	for the detection and/or identification of the <i>ereA</i> and <i>ereA2</i> resistance genes;
1531, 1532, 1533 and 1534	for the detection and/or identification of the <i>ereB</i> resistance gene;
1536, 1537, 1538 and 1539	for the detection and/or identification of the <i>linA</i> and <i>linA'</i> resistance genes;
1541, 1542, 1543 and 1544	for the detection and/or identification of the <i>linB</i> resistance gene;
1546 and 1547	for the detection and/or identification of the <i>mefA</i> resistance gene;
1549 and 1550	for the detection and/or identification of the <i>mefE</i> resistance gene;
1552, 1553, 1554 and 1555	for the detection and/or identification of the <i>mefA</i> and <i>mefE</i> resistance genes;
1556, 1557, 1558 and 1559	for the detection and/or identification of the <i>mphA</i> and <i>mphK</i> resistance genes;
1581, 1582, 1583 and 1584	for the detection and/or identification of the <i>satG</i> resistance gene;
1586, 1587, 1588, 1589 and 2254	for the detection and/or identification of the <i>tetM</i> resistance gene;
1591, 1592, 1593 and 2297	for the detection and/or identification of the <i>vanD</i> resistance gene;
1595, 1596, 1597 and 1598	for the detection and/or identification of the <i>vanE</i> resistance gene;
1609, 1610,	

1611 and  
1612 for the detection and/or identification of the *vatB* resistance gene;  
1614, 1615,  
1616 and  
1617 for the detection and/or identification of the *vatC* resistance gene;  
1619, 1620,  
1621 and  
1622 for the detection and/or identification of the *vga* resistance gene;  
1624, 1625,  
1626 and  
1627 for the detection and/or identification of the *vgaB* resistance gene;  
1629, 1630,  
1631 and  
1632 for the detection and/or identification of the *vgb* and *vgh* resistance  
genes;  
1634, 1635,  
1636 and  
1637 for the detection and/or identification of the *vgbB* resistance gene;  
1883, 1884,  
1885, 1886,  
1887, 1888,  
1889, 1890,  
1891, 1892,  
1893, 1894,  
1895, 1896,  
1897 and  
1898 for the detection and/or identification of the *blaSHV* resistance gene;  
1906, 1907,  
1908, 1909,  
1910, 1911,  
1912, 1913,  
1914, 1915,  
1916, 1917,  
1918, 1919,  
1920, 1921,  
1922, 1923,  
1924, 1925,  
1926, 2006,  
2007, 2008,  
2009 and  
2141 for the detection and/or identification of the *blaTEM* resistance gene;  
1961, 1962,  
1963 and  
1964 for the detection and/or identification of the *sulII* resistance gene;

1966, 1967, 1968 and 1969	for the detection and/or identification of the <i>tetB</i> resistance gene;
2065, 2066, 2067, 2068, 2069, 2070 and 2071	for the detection and/or identification of the <i>rpoB</i> resistance gene;
2098, 2099 and 2100	for the detection and/or identification of the <i>inhA</i> resistance gene;
2102, 2103 and 2104	for the detection and/or identification of the <i>embB</i> resistance gene;
2123, 2124 and 2125	for the detection and/or identification of the <i>C. difficile cdtA</i> toxin gene;
2126, 2127 and 2128	for the detection and/or identification of the <i>C. difficile cdtB</i> toxin gene;
2142 and 2143	for the detection and/or identification of the <i>mupA</i> resistance gene;
2145 and 2146	for the detection and/or identification of the <i>catI</i> resistance gene;
2148 and 2149	for the detection and/or identification of the <i>catII</i> resistance gene;
2151 and 2152	for the detection and/or identification of the <i>catIII</i> resistance gene;
2154 and 2155	for the detection and/or identification of the <i>catP</i> resistance gene;
2157, 2158, 2160 and 2161	for the detection and/or identification of the <i>cat</i> resistance gene; and
2163 and 2164	for the detection and/or identification of the <i>ppflo</i> -like resistance gene.

Please substitute the following claim 24 for the pending claim 24:

24. (Once amended) An isolated nucleic acid having at least 12 nucleotides in length, capable of hybridizing with the nucleotide sequence of any one of the *tuf* sequences defined in SEQ ID NOs.: 1-73, 75-241, 399-457, 498-529, 612-618, 621-624, 675, 677, 717-736, 779-792, 840-855, 865, 868-888, 897-910, 932, 967-989, 992, 1266-1287, 1518-1526, 1561-1575, 1578-1580, 1662-1664, 1666-1667, 1669-1670, 1673-1683, 1685-1689,



1786-1843, 1874-1881, 1956-1960, 2183-2185, 2187-2188, 2193-2201, 2214-2249 and 2255-2272.

Please substitute the following claim 25 for the pending claim 25:

25. (Once amended) An isolated nucleic acid having at least 12 nucleotides in length, capable of hybridizing with the nucleotide sequence of any one of the *atpD* sequences defined in SEQ ID NOs.: 242-270, 272-398, 458-497, 530-538, 663, 667, 673, 674, 676, 678-680, 737-778, 827-832, 834-839, 856-862, 866-867, 889-896, 929-931, 941-966, 1245-1254, 1256-1265, 1527, 1576-1577, 1600-1604, 1638-1647, 1649-1660, 1671, 1684, 1844-1848, 1849-1865 and 2189-2192.

Please substitute the following claim 26 for the pending claim 26:

26. (Once amended) An isolated nucleic acid having at least 12 nucleotides in length, capable of hybridizing with the nucleotide sequence of any one of the *recA* sequences defined in SEQ ID NOs.: 990-991, 1003, 1288-1289, 1714, 1756-1763, 1866-1873 and 2202-2212.

Please substitute the following claim 27 for the pending claim 27:

27. (Once amended) An isolated nucleic acid having at least 12 nucleotides in length, capable of selectively hybridizing with the nucleotide sequence of any one of the antimicrobial agent resistance gene sequences defined in SEQ ID NOs.: 1004-1075, 1255, 1607-1608, 1648, 1764-1785, 2013-2014, 2056-2064 and 2273-2280.

Please substitute the following claim 29 for the pending claim 29:

29. (Once amended) A method for the detection and/or identification of microbial species in a test sample comprising:

(a) contacting a nucleic acid having at least 12 nucleotides in length capable of hybridizing with the nucleic acids of any one of the antimicrobial agent resistance genes sequences defined in SEQ ID NOs.: 1004-1048, 1058-1075, 1255, 1607-1608, 1648, 1764-1785, 2013-2014, 2056-2064 and 2273-2280 with a test sample; and

(b) testing for hybridization of said nucleic acid to any of said resistance genes.

Please substitute the following claim 30 for the pending claim 30:

30. (Once amended) A method for the detection and identification of microbial species comprising:

(a) contacting a nucleic acid having at least 12 nucleotides in length capable of hybridizing with the nucleic acids of any one of the toxin genes defined in SEQ ID NOs.: 1078-1085, 2012 and 2123 to 2128 with a test sample; and

(b) testing for hybridization of said nucleic acid to any of said toxin genes.

Please substitute the following claim 33 for the pending claim 33:

33. (Once amended) A repertory of nucleic acid sequences derived from the repertory of claim 31.

Please substitute the following claim 34 for the pending claim 34:

34. (Once amended) An isolated nucleic acid used for the specific and ubiquitous detection and for identification of *Streptococcus pneumoniae*, which is derived from the repertory of claim 31.

Please substitute the following claim 35 for the pending claim 35:

35. (Once amended) An isolated nucleic acid as set forth in claim 34 which has a nucleic acid sequence of at least 12 nucleotides capable of hybridizing with said any *Streptococcus pneumoniae* and with any one of SEQ ID NOs.: 1184 to 1187.

Please substitute the following claim 36 for the pending claim 36:

36. (Once amended) An isolated nucleic acid as set forth in claim 34, which has a nucleic acid sequence of at least 12 nucleotides capable of hybridizing with the nucleic acids of *Streptococcus pneumoniae* and with any one of the nucleic acids having SEQ ID NOs.: 1180, 1181 and 1182.

Please substitute the following claim 37 for the pending claim 37:

37. A peptide derived from the translation of the nucleic acids from the repertory obtained from the method of claim 45, or of the nucleic acids defined in claim 24.

Please substitute the following claim 39 for the pending claim 39:

39. A recombinant vector comprising a nucleic acid obtained from the method of claim 45 or from the nucleic acids defined in claim 24.

Please substitute the following claim 41 for the pending claim 41:

41. (Once amended) A recombinant host cell comprising the recombinant vector defined in claim 39.

Please substitute the following claim 42 for the pending claim 42:

42. (Once amended) The use of the nucleic acid sequences defined in claim 28 and of the protein sequences deduced from said nucleic acid sequences, for the design of a therapeutic agent effective against said microorganisms.

Please add the following claims:

45. (New) A method as defined in claim 1, which further comprises adding to the repertory the following nucleic acids:

1238, 2289, 2290 and 2291	for the detection and/or identification of <i>Enterococcus faecalis</i> ;
1232 and 1234	for the detection and/or identification of <i>Staphylococcus aureus</i> ;
74, 1093, 1198, 1208 and 1209	for the detection and/or identification of <i>Staphylococcus saprophyticus</i> ;
1237, 2286 and 2287	for the detection and/or identification of <i>Enterococcus faecium</i> ; and
994, 995, 996, 997, 998, 1201 and 1211	for the detection and/or identification of <i>Streptococcus pyogenes</i> .

46. (New) A method as set forth in claim 18, which further comprises probes or primers, or both, for the detection of at least one antimicrobial agent resistance gene.

47. (New) A method as set forth in claim 18, which further comprises probes or primers, or both, for the detection of at least one toxin gene.

48. (New) A method as set forth in claim 19, which further comprises probes or primers, or both, for the detection of at least one toxin gene.